

CLAIMS:

1. An image forming apparatus comprising a pair of stationary side walls arranged in an image forming apparatus body and a plurality of photosensitive drum units supported between the stationary side walls, wherein each of the photosensitive drum units comprises a drum-holding frame for holding a photosensitive drum, an exposure means-holding frame for holding the exposure means, and a pressing means for pressing the exposure means-holding frame from one side toward the other side in the axial direction of the photosensitive drum.
2. An image forming apparatus according to claim 1, wherein the pressing means is disposed on one side of the drum-holding frame so as to press the exposure means-holding frame from one side toward the other side in the axial direction of the photosensitive drum.
3. An image forming apparatus according to claim 1, wherein the pressing means comes pushed in contact with one stationary side wall and is pushed to press-contact part of the other side of the exposure means-holding frame to the other stationary side wall, so that the exposure means-holding frames are aligned to each other, at predetermined positions in an axial direction, with the other stationary side wall as a reference.
4. An image forming apparatus according to claim 1, wherein the exposure means-holding frame is supported so as to move in the axial direction relative to the drum-holding frame by fitting the shafts or the fitting holes disposed on both side walls that define both sides of the exposure means-holding frame to the fitting holes or the shafts disposed on both side walls of the drum-holding frame, and axes of the shafts or the fitting holes disposed on both side walls of the exposure means-holding frame and the axes of the fitting holes or the shafts disposed

on both side walls of the drum-holding frame are arranged on a common imaginary axis line in parallel with the axis of the photosensitive drum, which is on a common imaginary axis line on the peripheral surface where an image is focused by the exposure means, of the photosensitive drum.

5. An image forming apparatus according to claim 1, wherein first positioning projections having axes common to the axis of the photosensitive drum are disposed on both side walls of the drum-holding frame, second positioning projections in parallel with the axis of the photosensitive drum are disposed on both side walls of the exposure means-holding frame, and a first positioning groove and a second positioning groove for positioning the first positioning projection and the second positioning projection that are inserted therein are formed in the stationary side walls.

6. An image forming apparatus according to claim 5, wherein the first positioning projections disposed on both side walls of the drum-holding frame are constituted by the shaft of the photosensitive drum.

7. An image forming apparatus according to claim 5, wherein the second positioning projection disposed on the other side wall of the exposure means-holding frame is constituted by a positioning/pushing shaft, positioning surface walls are formed substantially integrally with the stationary side walls on the outer sides of the regions of the stationary side walls where the second positioning grooves are formed, and as the first positioning projections are inserted in the first positioning grooves and as the second positioning projections are inserted in the second positioning grooves thereby enabling the photosensitive drum units to be supported at predetermined positions between the stationary side walls, the pressing means

is pushed upon coming in contact with the positioning wall surface of the one stationary sidewall, and the front end surface of the positioning/pushing shaft of the exposure means-holding frame is pushed onto the positioning wall surface of the other stationary side wall due to the pressing means.

8. An image forming apparatus according to claim 1, wherein the exposure means-holding frame has one side wall for defining one side of the exposure means-holding frame, the drum-holding frame has a side wall for defining one side of the drum-holding frame, which is positioned on the outer side of one side wall of the exposure means-holding frame, the pressing means comprises a cap-shaped pressing member disposed on one side wall of the drum-holding frame so as to move in the axial direction and a compression coil spring disposed between the pressing member and the one side wall of the exposure means-holding frame, the pressing member is so disposed as to protrude beyond one side wall of the drum-holding frame and is limited at a predetermine position from moving in a direction to separate away from one side wall of the exposure means-holding frame, and, in a state where the photosensitive drum units are supported at predetermined positions between the stationary side walls, the pressing member is pushed upon being contacted to one stationary side wall and, upon bringing part on the other side of the exposure means-holding frame into pressed contact with the other stationary side wall, the exposure means-holding frames are aligned to each other, at predetermined positions in an axial direction, with the other stationary side wall as a reference.

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9. An image forming apparatus according to claim 1, wherein the exposure means is held by the exposure means-holding frame so as to adjust the position thereof in the radial direction relative to the peripheral surface of the photosensitive drum.

10. An image forming apparatus according to claim 9, wherein both side portions of the exposure means are supported by the exposure means-holding frame via a radial direction position
5 adjusting means capable of adjusting the positions thereof in the radial direction relative to the peripheral surface of the photosensitive drum.

11. An image forming apparatus according to claim 10, wherein
10 each of the radial direction position adjusting means includes fitting holes formed in the bottom wall portions disposed integrally in the inside of both side portions of the exposure means-holding frame, the fitting holes being such that the ends thereof on the bottom wall side are closed by the closing walls
15 and the other ends thereof are opened, cylindrical portions formed integrally on both side portions of the exposure means and being internally threaded along the inner peripheral surfaces thereof, the cylindrical portions being inserted in the fitting holes from the other ends thereof so as to slide,
20 radial direction position adjusting bolts brought into engagement with the cylindrical portions and into contact at the front ends thereof with the closing walls in the bottom wall portions, and a spring means for urging both side portions of the exposure means toward the bottom wall portions, wherein
25 the fitting holes are so positioned that the axes thereof extend in parallel with each other and at right angles with the axis of the photosensitive drum.

12. An image forming apparatus according to claim 1, wherein
30 the exposure means comprises an LED head.

13. A photosensitive drum unit supported between a pair of stationary side walls disposed in the image forming apparatus body, comprising a drum-holding frame for holding a

photosensitive drum, an exposure means-holding frame for holding an exposure means, and a pressing means capable of pressing the exposure means-holding frame from one side toward the other side in the axial direction of the photosensitive drum.

14. A photosensitive drum unit according to claim 13, wherein the pressing means is disposed on one side of the drum-holding frame so as to press the exposure means-holding frame from one side toward the other side in the axial direction of the photosensitive drum.

15. A photosensitive drum unit according to claim 13 or 14, wherein the exposure means-holding frame has one side wall for defining one side of the exposure means-holding frame, the drum-holding frame has a side wall for defining one side of the drum-holding frame, which is positioned on the outer side of one side wall of the exposure means-holding frame, the pressing means comprises a cap-shaped pressing member disposed on one side wall of the drum-holding frame so as to move in the axial direction and a compression coil spring disposed between the pressing member and the one side wall of the exposure means-holding frame, and the pressing member is so disposed as to protrude beyond one side wall of the drum-holding frame and is limited at a predetermine position from moving in a direction to separate away from one side wall of the exposure means-holding frame.

16. A photosensitive drum unit according to claim 13, wherein the exposure means-holding frame is supported so as to move in the axial direction relative to the drum-holding frame by fitting the shafts or the fitting holes disposed on both side walls that define both sides of the exposure means-holding frame to the fitting holes or the shafts disposed on both side walls

of the drum-holding frame, and axes of the shafts or the fitting holes disposed on both side walls of the exposure means-holding frame and the axes of the fitting holes or the shafts disposed on both side walls of the drum-holding frame, are arranged on
5 a common imaginary axis line in parallel with the axis of the photosensitive drum, which is on a common imaginary axis line on the peripheral surface where an image is focused by the exposure means, of the photosensitive drum.

10 17. A photosensitive drum unit according to claim 13, wherein the exposure means is held by the exposure means-holding frame so as to adjust the position thereof in the radial direction relative to the peripheral surface of the photosensitive drum.

15 18. A photosensitive drum unit according to claim 17, wherein both side portions of the exposure means are supported by the exposure means-holding frame via a radial direction position adjusting means capable of adjusting the positions thereof in the radial direction relative to the peripheral surface of the
20 photosensitive drum.

19. A photosensitive drum unit according to claim 18, wherein each of the radial direction position adjusting means comprises fitting holes formed in the bottom wall portions disposed
25 integrally in the inside of both side portions of the exposure means-holding frame, the fitting holes being such that the ends thereof on the bottom wall side are closed by the closing walls and the other ends thereof are opened, cylindrical portions formed integrally on both side portions of the exposure means
30 and being internally threaded along the inner peripheral surfaces thereof, the cylindrical portions being inserted in the fitting holes from the other ends thereof so as to slide, radial direction position adjusting bolts brought into engagement with the cylindrical portions and into contact at

the front ends thereof with the closing walls in the bottom wall portions, and a spring means for urging both side portions of the exposure means toward the bottom wall portions, wherein the fitting holes are so positioned that the axes thereof extend
5 in parallel with each other and at right angles with the axis of the photosensitive drum.

20. A photosensitive drum unit according to claim 13, wherein the exposure means comprises an LED head.